

NEW PERSPECTIVES

MSOffice Excel - Part 2



Formatting Workbook Text and Data



Objectives

- Change fonts, font style, and font color
- Add fill colors and a background image
- Create formulas to calculate sales data
- Apply Currency and Accounting formats and the Percent style
- Format dates and times
- Align, indent, and rotate cell contents
- Merge a group of cells

Objectives

- Use the AVERAGE function
- Apply cell styles
- Copy and paste formats with the Format Painter
- Find and replace text and formatting
- Change workbook themes

Objectives

- Highlight cells with conditional formats
- Format a worksheet for printing
- Set the print area, insert page breaks, add print titles, create headers and footers, and set margins

Visual Overview

You use the Font button to change the font of selected text or numbers.

Every font can be formatted with a font style, such as bold, italic, or underline.

You can format a text string within a cell in Edit mode.

The Alignment group has buttons for setting the horizontal and vertical alignment, the orientation, indents, and text wrapping of text in a cell, as well as merging cells.

A font is a set of characters that employ the same typeface, such as Arial, Times New Roman, and Courier.

You can merge, or combine, several cells into one cell. This content is merged and centered across the range A17:A20.

You can rotate content in a cell.

The Accounting format lines up numbers within a column by their currency symbol and decimal point; negative numbers are enclosed in parentheses.

The Percent style formats numbers as percentages with the % symbol after the number and no decimal places. You can change the number of decimal places that are displayed, as shown here.

Category	2015	2014	Net Change	% Change
Gross Sales	\$ 7,000,000	\$ 8,424,000	\$ (1,424,000)	-16.90%
Cost of Sales	3,374,000	2,784,000	590,000	21.19%
Operating Expenses	5,032,000	4,376,000	656,000	14.99%
Net Profit/Loss	\$ (1,406,000)	\$ 1,264,000	\$ (2,670,000)	-211.23%

State	Jan	Feb	Mar	Apr	May	Jun
Iowa	26,000	24,000	27,000	28,000	29,000	32,000
Kansas	44,000	43,000	48,000	50,000	51,000	54,000
Colorado	29,000	26,000	30,000	31,000	35,000	34,000
Nebraska	20,000	21,000	24,000	25,000	28,000	27,000
	46,000	43,000	52,000	51,000	54,000	54,000
	38,000	35,000	43,000	42,000	44,000	44,000
	27,000	28,000	28,000	28,000	28,000	37,000
	38,000	39,000	45,000	47,000	46,000	49,000

Worksheet Formatting

The screenshot shows the Microsoft Excel 2013 interface. The 'Number' group in the ribbon is highlighted, showing options for Accounting, Percent, Comma, and increasing/decreasing decimal places. The worksheet below displays a table of data with a red header row and orange-filled data rows. The data is formatted with the Comma style, showing thousands separators and two decimal places. Callouts provide additional information:

- The Number group has buttons for formatting numbers in the Accounting format, Percent style, and Comma style, as well as changing the number of decimal places displayed.**
- A fill color is a background color that can be added to cells to help differentiate parts of a worksheet or highlight data.**
- You can increase or decrease the number of decimal places that are displayed in a value. These values show no decimal places.**
- The Comma style adds a thousands separator to numbers, adds two decimal places, and lines up values within a column by their decimal points. You can change the number of decimal places that are displayed, as shown here.**

	Jun	Jul	Aug	Sep	Oct	Nov
00	32,000	33,000	34,000	30,000	32,000	30,000
00	54,000	54,000	58,000	54,000	55,000	51,000
00	51,000	52,000	54,000	50,000	49,000	46,000
00	29,000	32,000	30,000	30,000	28,000	27,000
00	54,000	54,000	55,000	54,000	52,000	51,000
00	34,000	37,000	37,000	34,000	34,000	34,000
00	27,000	27,000	29,000	24,000	26,000	24,000
00	54,000	58,000	58,000	55,000	54,000	50,000
00	44,000	47,000	48,000	47,000	48,000	44,000
00	37,000	37,000	38,000	35,000	33,000	35,000
00	49,000	51,000	49,000	47,000	49,000	47,000

Formatting Cell Text

- **Formatting**
 - Process of changing workbook's appearance by defining fonts, styles, colors, and graphical effects
 - Only the *appearance* of data changes, not data itself
 - Enhances readability and appeal
 - Live Preview shows the effects of formatting options before you apply them
- **Themes**
 - Named collections of formatting effects

Formatting Cell Text

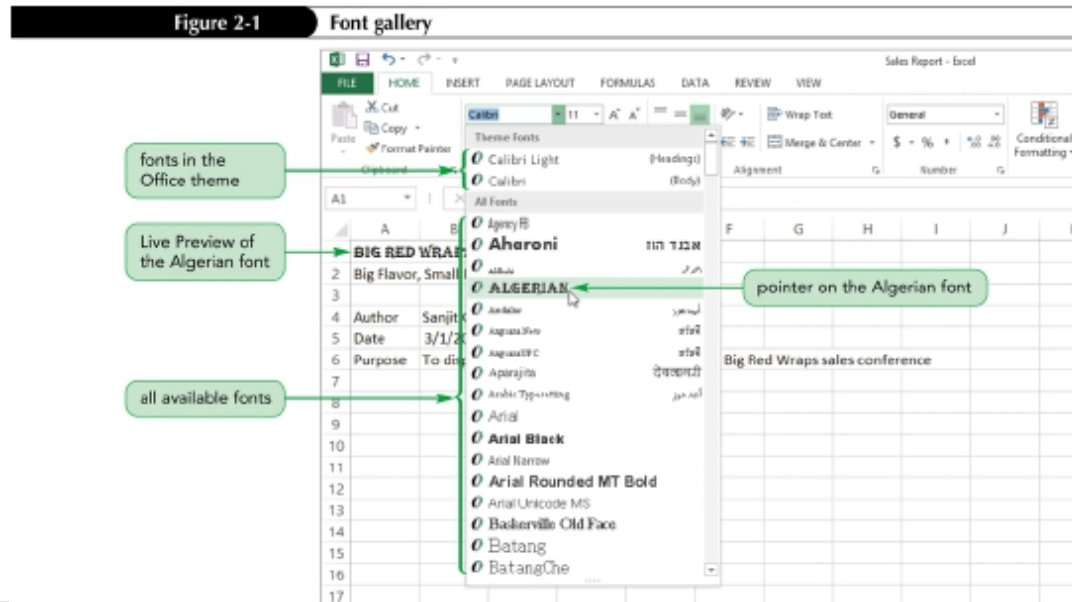
- You can add formatting to a workbook by choosing its fonts, styles, colors, and decorative features through the use of themes.
 - A **theme** is a collection of formatting for text, colors, and graphical effects that are applied throughout a workbook to create a specific look and feel.

Formatting Cell Text

- As you format a workbook, **Galleries** and **Live Preview** show how a workbook would be affected by a formatting selection.
 - A **Gallery** is a menu that shows a visual representation of the options available for the selected button.
 - **Live Preview** shows the results of clicking each option. By pointing to different options, you can quickly see different results before selecting the format you want.

Applying Fonts and Font Styles

- Theme fonts and non-theme fonts
- Character styles (**serif fonts** and **sans serif fonts**)
- Font styles, special effects, font size



Applying a Font Color

- Themes have 12 colors: 4 for text and backgrounds, 6 for accents and highlights, and 2 for hyperlinks
- Standard colors (always available)
- Custom colors
- Automatic colors



Working with Colors and Backgrounds

- Changing a fill color

Figure 2-6 Font and fill colors in the Documentation sheet

width of column B is 30 characters

labels are white text on a red background

red text on a white background

text wrapped in the cell

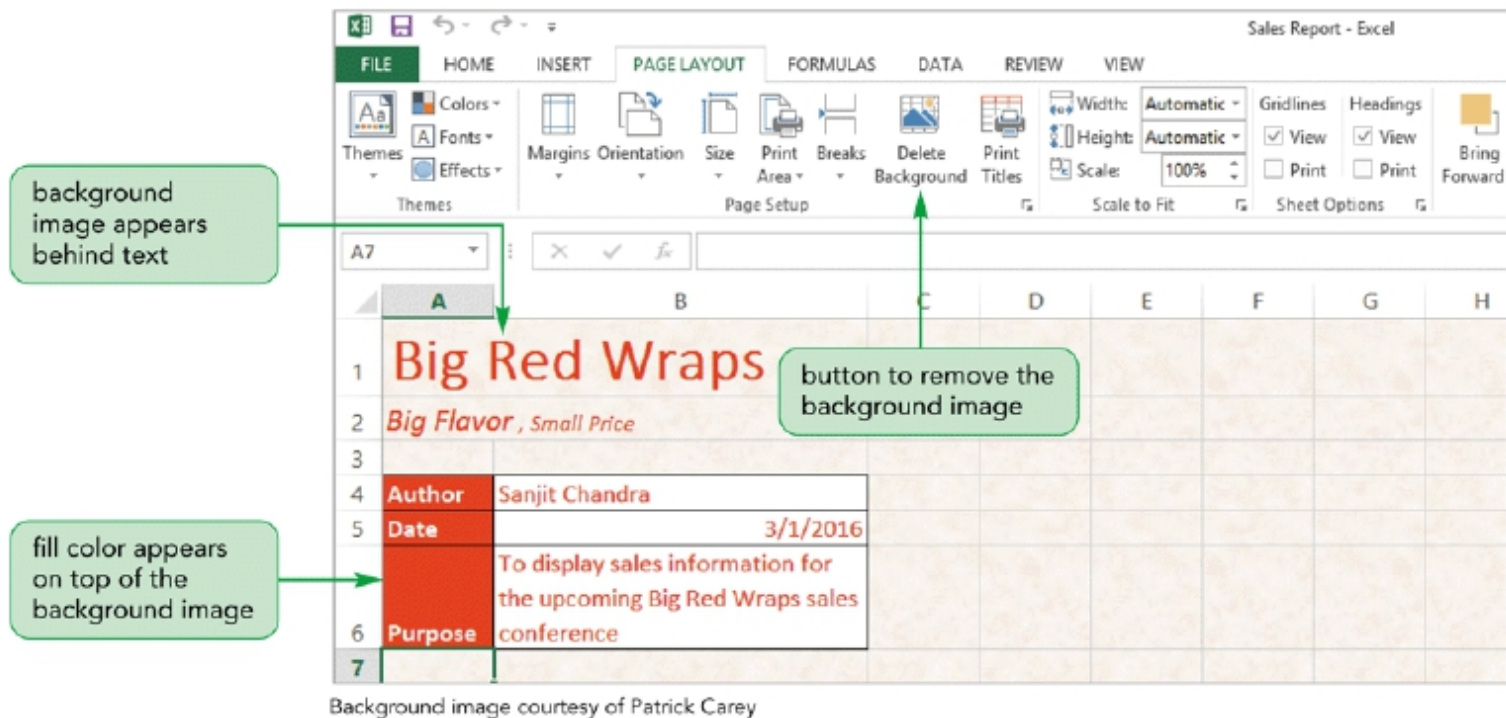
	A	B	C	D	E	F	G	H
1	Big Red Wraps							
2	Big Flavor, Small Price							
3								
4	Author	Sanjit Chandra						
5	Date	3/1/2016						
6	Purpose	To display sales information for the upcoming Big Red Wraps sales conference						
7								
8								

Working with Colors and Backgrounds

- Background images do not print

Figure 2-7

Background image in the Documentation sheet



Changing a Fill Color

- Select the range you wish to apply a fill color to
- On the Home tab, in the Font group, click the Fill Color button arrow, and then click the specific color you wish to use in the Standard Colors section.

Adding a Background Image

- On the ribbon, click the Page Layout tab to display the page layout options.
- In the Page Setup group, click the Background button.
- Click the Browse button. The Sheet Background dialog box opens allowing you to navigate to the file location
- Click the file, and then click Insert. The image is added to the background

Using Functions and Formulas

- A primary feature of Excel is the ability to easily perform many mathematical and statistical calculations through functions and formulas.
- A function is a formula pre-established by Excel
- A formula is created by the Excel user as needed

Tutorial 2 Functions and Formulas

- **The following formulas will be calculated in Tutorial 2**
 - **Sales**—the total amount of sales at all of the restaurants
 - **Cost of Sales**—the cost of producing the store's menu items
 - **Operating Expenses**—the cost of running the stores including the employment and insurance costs

Tutorial 2 Functions and Formulas

- **The following additional formulas will also be calculated in Tutorial 2**
 - **Net Profit/Loss**—the difference between the income from the gross sales and the total cost of sales and operating expenses
 - **Units Sold**—the total number of menu items sold by the company during the year
 - **Customers Served**—the total number of customers served by the company during the year

Formatting Numbers

- Goal: Make workbook easier to interpret
 - Change the number of digits displayed to the right of the decimal point
 - Add a comma as a thousands separator
 - Control number of decimal places
 - Use percentage and currency symbols

Formatting Calculated Values

- Create formulas to add, subtract, and divide values

Figure 2-8 Sales statistics for the entire company and per store

	A	B	C	D	E	F	G	H	I
5		Category	2015	2014	Net Change	% Change			
6		Gross Sales	9514000	8424000					
7		Cost of Sales	3374000	2784000					
8		Operating Expenses	5032000	4376000					
9		Net Profit/Loss	1108000	1264000					
10									
11		Units Sold	1344000	1104000					
12		Customers Served	155400	129600					
13									
14		Sales Statistics per Store							
15		Category	2015	2014	Net Change	% Change			
16		Gross Sales	475700	526500					
17		Cost of Sales	168700	174000					
18		Operating Expenses	251600	273500					
19		Net Profit/Loss	55400	79000					
20									
21		Units Sold	67200	69000					
22		Customers Served	7770	8100					
23		Stores	20	16					

overall store sales statistics

per-store sales statistics are calculated by dividing the overall statistics by the number of stores

number of stores in 2014 and 2015

Formatting Calculated Values

- Applying number formats
 - Use **General number format** for simple calculations
 - Apply Excel's additional formatting to make numbers easier to interpret
 - Accounting style
 - Lines up currency values within a column by currency symbol and decimal point
 - Encloses negative numbers within parentheses

Applying Number Formats

Figure 2-11 Currency and Accounting number formats

	Currency Format		Accounting Format	
	\$95,000.00	\$	95,000.00	
negative values displayed with a negative sign	→ - \$3,300.00	\$	(3,300.00)	negative values displayed in parentheses
\$ symbols placed to the left of the leading digit	→ \$0.00	\$	-	zeros displayed with a dash
	→ \$1,108.00	\$	1,108.00	
		\$ symbols fixed on the left edge of the cell		values slightly indented from the right cell edge

Applying Number Formats

Figure 2-12 Formatted gross sales values

The screenshot shows the Microsoft Excel 2013 interface. The 'HOME' tab is active, and the 'Number' group in the ribbon is selected. The 'Accounting Format' button is highlighted with a green box and labeled 'Accounting Format button'. The 'Increase Decimal' and 'Decrease Decimal' buttons are also labeled with green boxes. The worksheet shows a table with the following data:

	Category	2015	2014	Net Change	% Change
6	Gross Sales	\$ 9,514,000	\$ 8,424,000	\$ 1,090,000	0.129392213

Annotations in the image include:

- Accounting Format button:** Points to the 'Accounting Format' button in the 'Number' group of the ribbon.
- gross sales values displayed in the Accounting format with no decimal places:** Points to the 'Gross Sales' row in the table.
- Increase Decimal button:** Points to the 'Increase Decimal' button in the 'Number' group.
- Decrease Decimal button:** Points to the 'Decrease Decimal' button in the 'Number' group.

Formatting Calculated Values

- Formatting dates and times
 - Dates/times are stored as numbers, not as text
 - Applying different formats does not affect values
 - Makes it easier to calculate time intervals
 - Short Date format or Long Date format
 - 12- or 24-hour time

Formatting Dates and Times












- Excel provides many formats for dates and times in the worksheets depending on user requirements
 - Select the cell in which the date and time should appear
 - On the ribbon, select the HOME tab
 - In the Number group, click the Number Format button arrow to display a list of number formats, and then select the preferred format.
 - The date is displayed with the selected format

Formatting Worksheet Cells

- Format appearance of individual cells by:
 - Modifying alignment of text within the cell
 - Indenting cell text
 - Adding borders of different styles and colors to individual cells or ranges

Formatting Worksheet Cells

- Aligning cell content
 - Default:
 - Cell text aligned with left bottom borders
 - Cell values aligned with right bottom borders
 - Buttons to set alignment options are in Alignment group on Home tab

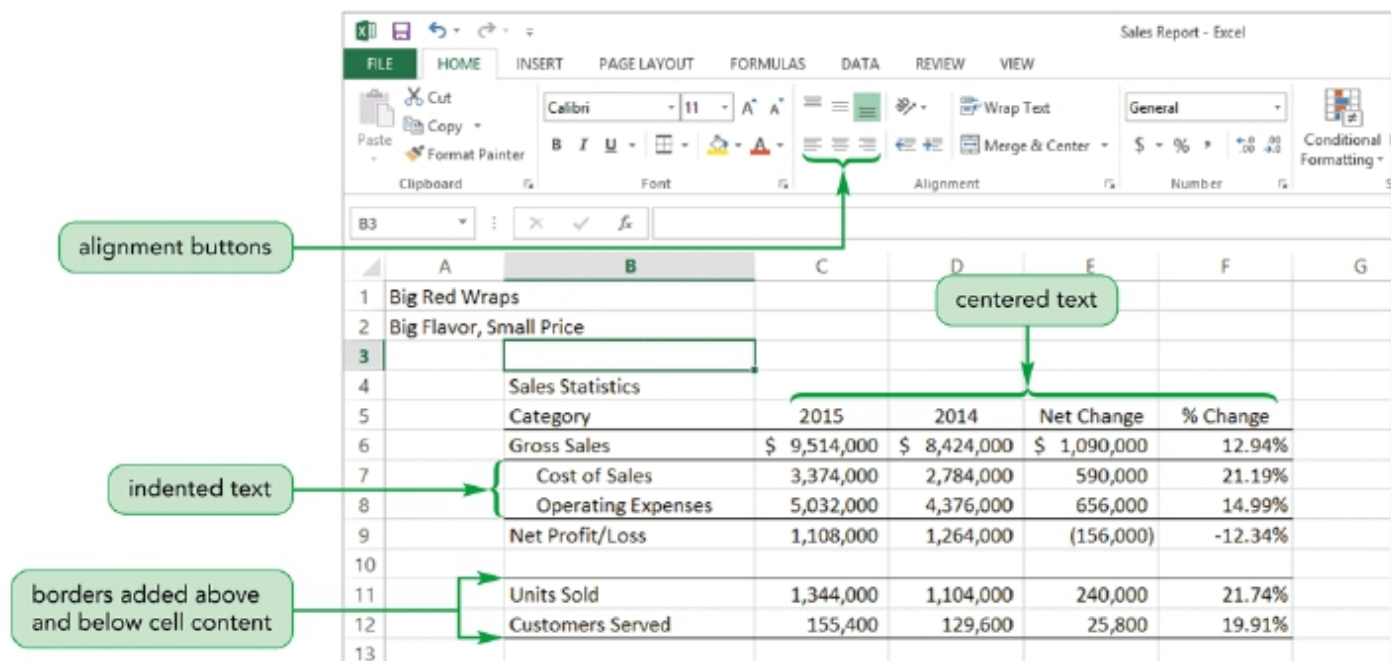
Alignment buttons		
Button	Name	Description
	Top Align	Aligns the cell content with the cell's top edge
	Middle Align	Vertically centers the cell content within the cell
	Bottom Align	Aligns the cell content with the cell's bottom edge
	Align Left	Aligns the cell content with the cell's left edge
	Center	Horizontally centers the cell content within the cell
	Align Right	Aligns the cell content with the cell's right edge
	Decrease Indent	Decreases the size of the indentation used in the cell
	Increase Indent	Increases the size of the indentation used in the cell
	Orientation	Rotates the cell content to any angle within the cell
	Wrap Text	Forces the cell text to wrap within the cell borders
	Merge & Center	Merges the selected cells into a single cell

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Formatting Worksheet Cells

- Indenting cell content
 - Useful for entries considered subsections of a worksheet

Figure 2-16 Worksheet with formatted cells



Formatting Worksheet Cells

- Merging cells
 - Retains only content (and cell reference) from upper-left cell in the range
 - Merge options: **Merge & Center**, **Merge Across**, **Merge Cell**, and **Unmerge Cells**

Figure 2-18 Merged cells

	A	B	C	D	E	F	G
40	Iowa	434 Main St. Des Moines, IA 50311 (515) 555-1134	46,000	43,000	52,000	51,000	54
41	Colorado	112 Reservoir Ln. Greeley, CO 80631 (970) 555-1138	38,000	35,000	43,000	42,000	44
42	Nebraska	5155 Rocane Dr. Grand Island, NE 68801 (402) 555-7734	27,000	28,000	31,000	33,000	32
43		42 East River Rd. Omaha, NE 68111 (402) 555-9148	38,000	39,000	45,000	47,000	46
44		975 Business Dr. Manhattan, KS 66502 (785) 555-0444	46,000	45,000	49,000	53,000	55
45	Kansas	47 Valley View Ln. Topeka, KS 66604 (785) 555-8308	31,000	31,000	34,000	36,000	37
46		87210 Cassmeyer Dr. Salina, KS 67601 (785) 555-8308	47,000	45,000	53,000	53,000	56
47	TOTAL		680,000	659,000	757,000	779,000	815
48							

Formatting Worksheet Cells

- Rotating cell contents saves space and provides visual interest

Figure 2-19 Rotated cell content

Orientation button

Dialog Box Launcher

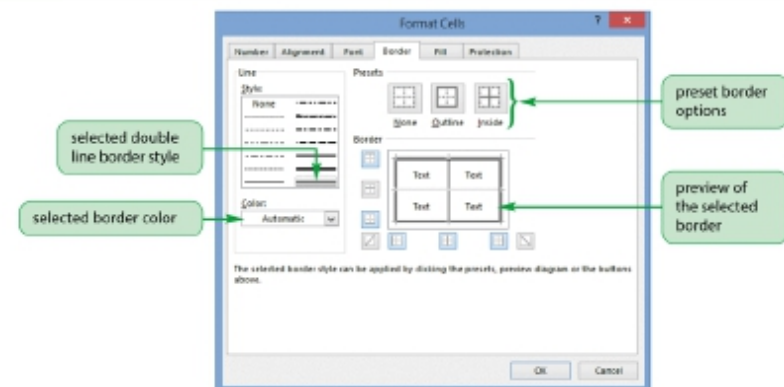
text rotated up and middle-aligned

	A	B	C	D	E	F	G
41	Colorado	112 Reservoir Ln. Greeley, CO 80631 (970) 555 - 2138	38,000	35,000	43,000	42,000	44,000
42	Nebraska	5155 Pocane Dr. Grand Island, NE 68801 (402) 555 - 7734	27,000	28,000	31,000	33,000	32,000
43		42 East River Rd. Omaha, NE 68111 (402) 555 - 9148	38,000	39,000	45,000	47,000	46,000
44	Kansas	975 Business Dr. Manhattan, KS 66502 (785) 555 - 0444	46,000	45,000	49,000	53,000	55,000
45		47 Valley View Ln. Topeka, KS 66604 (785) 555 - 6106	31,000	31,000	34,000	36,000	37,000
46		87210 Causeway Dr. Salina, KS 67401 (785) 555 - 8103	47,000	45,000	53,000	53,000	56,000
47		TOTAL	680,000	659,000	757,000	779,000	815,000

Formatting Worksheet Cells

- Adding cell borders enhances readability of rows and columns or data
 - Add borders to left, top, right, or bottom of cell or range; around an entire cell; or around outside edges of a range
 - Specify thickness and number of lines in border

Figure 2-21 Border tab in the Format Cells dialog box



Format Cells Dialog Box Options

- Presents formats available from Home tab in a different way and provides more choices
- Six tabs, each focusing on different options:

—Number

Figure 2-20 Font tab in the Format Cells dialog box

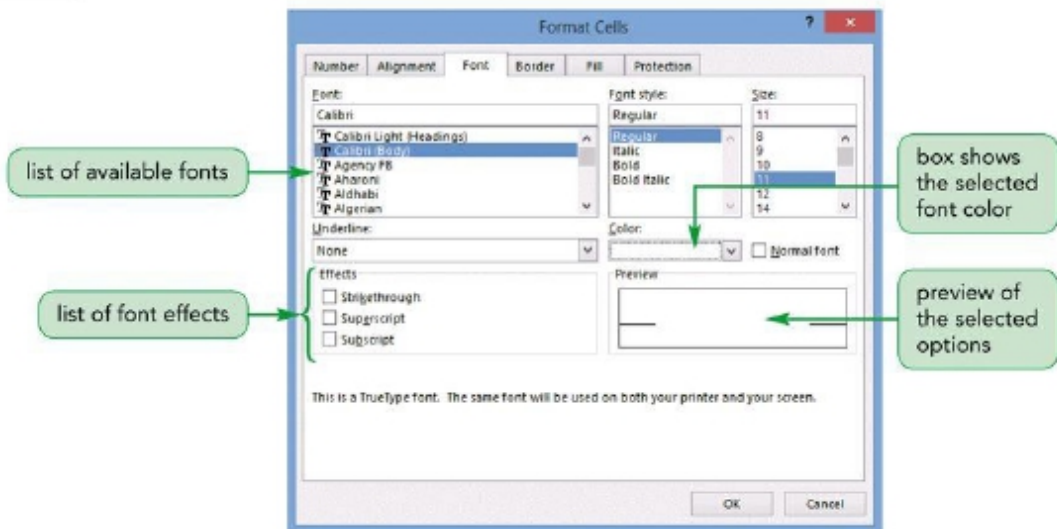
—Alignment

—Font

—Border

—Fill

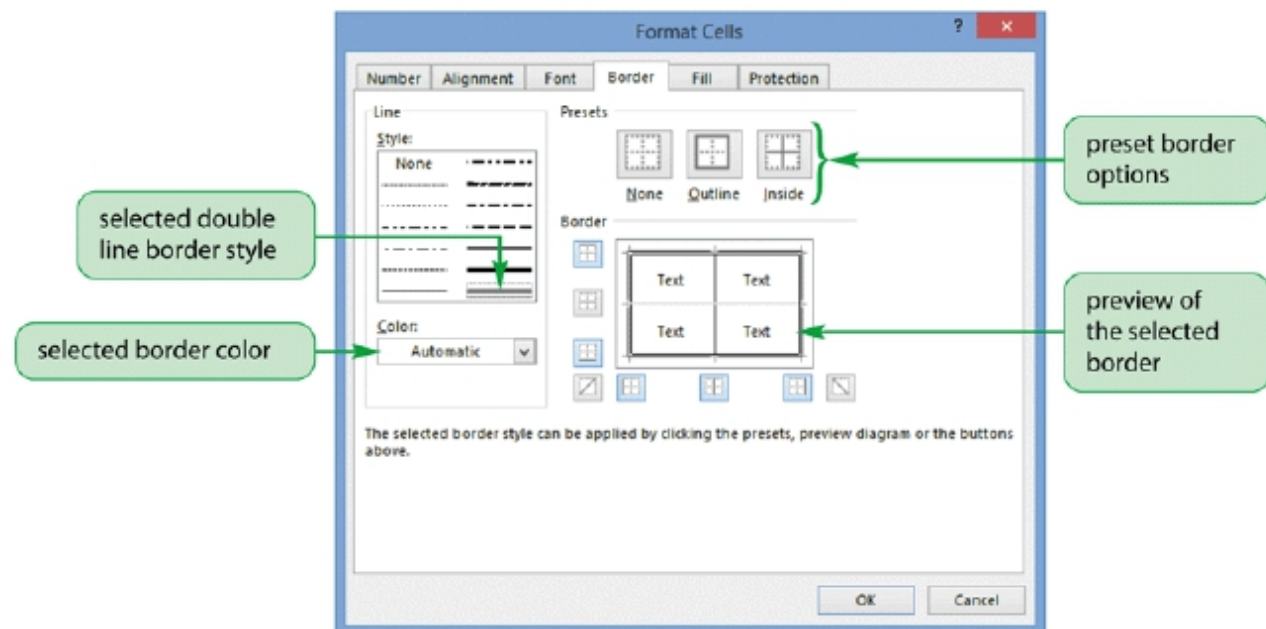
—Protection



Options in the Format Cells Dialog Box

- Border tab

Figure 2-21 Border tab in the Format Cells dialog box



Session 2.2 Visual Overview

The PAGE LAYOUT tab has options for setting how the worksheet will print.

The Format Painter copies and pastes formatting from one cell or range to another without duplicating any data.

Print titles are rows and columns that are included on every page of the printout. In this case, the text in rows 1 and 2 will print on every page.

A manual page break is one you set to indicate where a new page of the printout should start and is identified by a solid blue line.

The screenshot shows the Microsoft Excel 2013 interface with the 'Sales Report - Excel' workbook open. The 'PAGE LAYOUT' tab is selected on the ribbon. The worksheet displays a sales report with a print area highlighted by a solid blue line. The report includes a title 'Big Red Wraps', a subtitle 'Big Printer - Small Price', and a table of sales statistics. The table has columns for Year, Total Change, and % Change. The data is organized by state (Wisconsin, Minnesota) and includes monthly gross sales data. The print area is defined by the range A3:G22. The worksheet is divided into three pages (Page 1, Page 2, Page 3) by solid blue lines. The status bar at the bottom shows 'READY' and 'Documentation Sales Report'.

The Find and Replace commands, which are available from the Find & Select button, are used to quickly make content and format changes throughout a workbook.

The print area is a range or ranges in a worksheet that you specify to be printed. In Page Break Preview, the print area is not grayed out.

Cell styles contain predefined formatting options that can be applied to cells in the workbook.

Cell highlighting is a conditional format that changes a cell's font color or fill color based on the cell's value.

An automatic page break is set by Excel when the page of the printout is full and is identified by a dotted blue line.

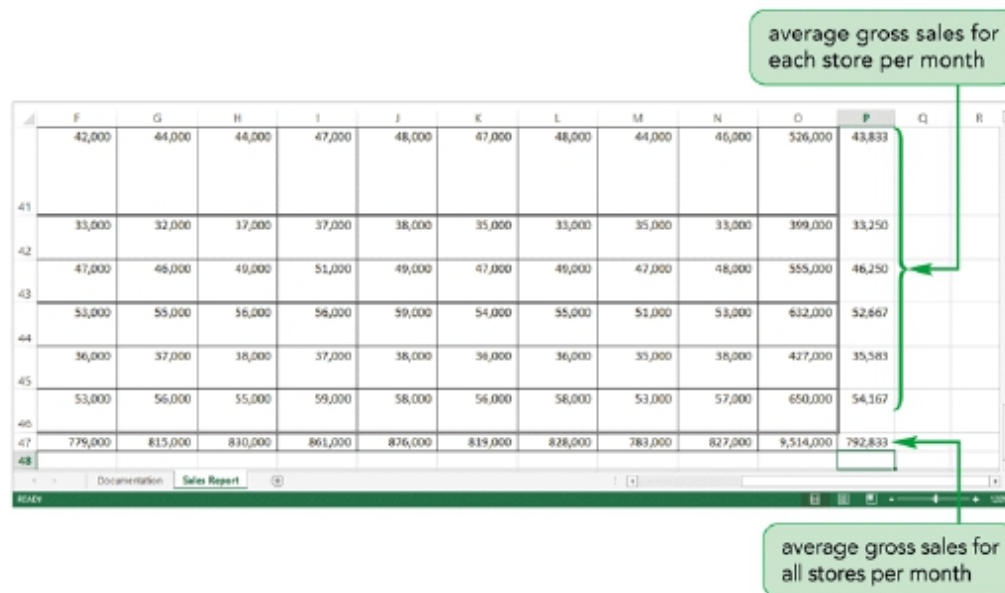
Page Break Preview shows the location of the print area and all page breaks.

Using the Average Function

- As mentioned previously, Excel includes pre-determined formulas called functions.
- The **AVERAGE function** calculates the average value from a collection of numbers.
 - The syntax of the Average function is:
AVERAGE (number1, number2, number3, ...)

Using the Average Function

Figure 2-23 AVERAGE function results

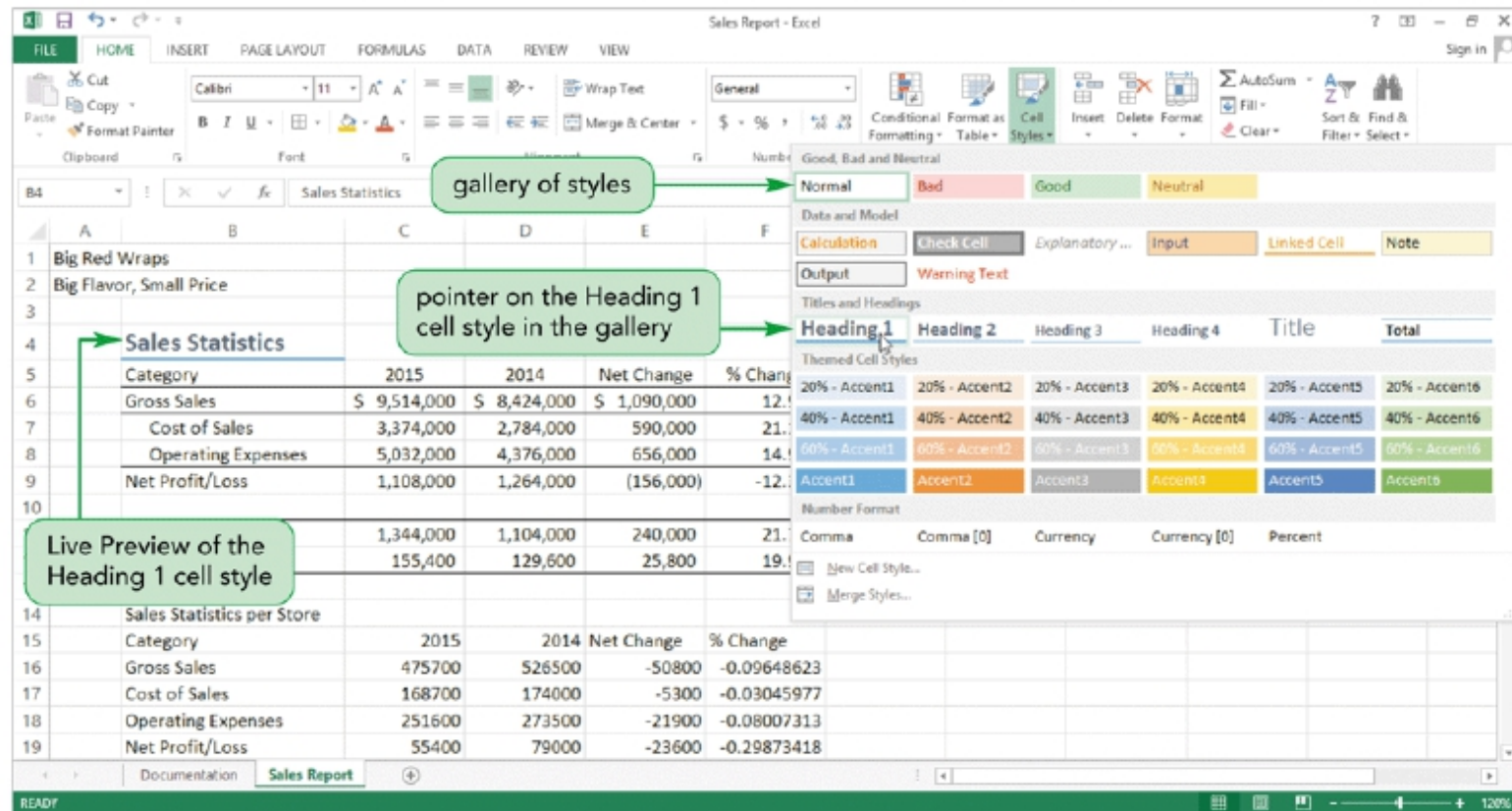


Applying Cell Styles

- Use styles to ensure that cells displaying same type of data use the same format
- Style
 - Selection of formatting options using a specific font and color from the current theme
 - If style is later revised, appearance of any cell formatted with that style is updated automatically; saves time and effort

Applying Cell Styles

Figure 2-24 Cell Styles gallery



Copying and Pasting Formats

- Copying formats with Format Painter
 - Fast and efficient way of maintaining a consistent look and feel throughout a workbook
 - Copies formatting without duplicating data

Copying and Pasting Formats

- Use Paste Options Button to paste formatting from a copied range along with its contents

Figure 2-28 Paste Options button

Figure 2-27 Formats pasted from a range

	2014	2015	Net Change	% Change
Gross Sales	\$ 9,514,000	\$ 8,424,000	\$ 1,090,000	12.54%
Cost of Sales	3,374,000	2,764,000	590,000	21.39%
Operating Expenses	5,832,000	4,376,000	656,000	15.99%
Net Profit/Loss	\$ 938,000	\$ 204,000	(\$ 734,000)	-78.24%
Units Sold	1,344,000	1,104,000	240,000	21.34%
Customers Served	255,400	129,600	25,800	10.92%

	2014	2015	Net Change	% Change
Gross Sales	\$ 475,200	\$ 526,500	\$ (50,800)	-9.63%
Cost of Sales	258,200	174,000	(5,300)	-3.05%
Operating Expenses	251,600	273,500	(21,900)	-8.69%
Net Profit/Loss	55,400	79,000	(23,600)	-42.67%
Units Sold	67,200	69,000	(3,800)	-5.65%
Customers Served	7,770	8,100	(330)	-4.25%
Stores	20	18	4	25.00%

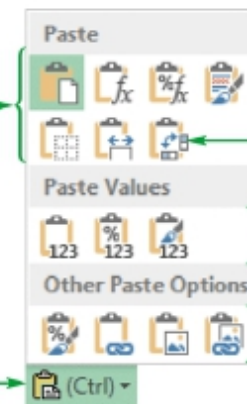
options to paste formulas and borders with or without formatting

Transpose button

options to paste values with or without formatting

options to paste hypertext links, pictures, and formats only

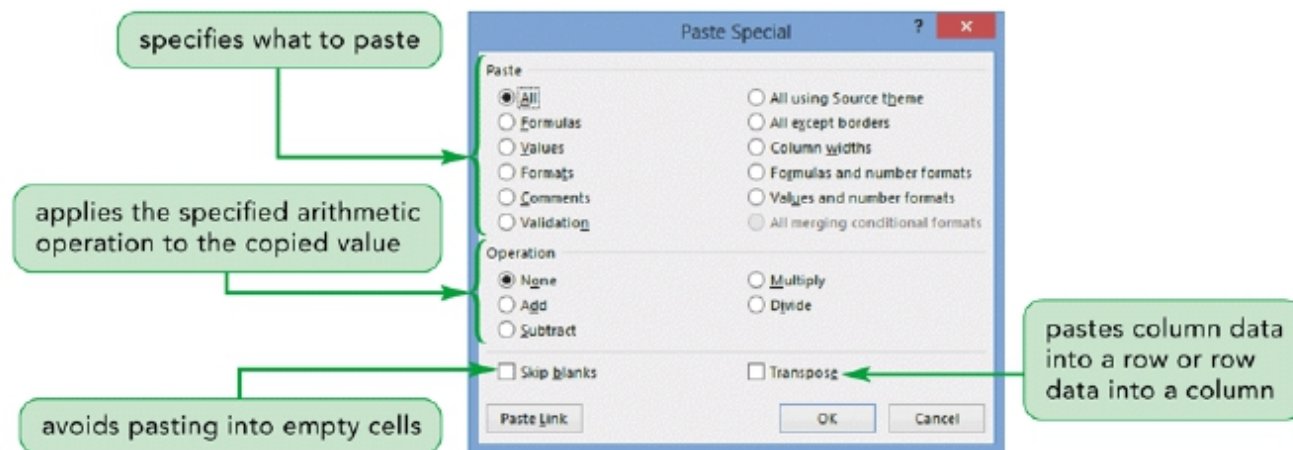
button appears in the lower-left corner of the pasted range



Copying and Pasting Formats

- Use Paste Special to control exactly how to paste the copied range

Figure 2-29 Paste Special dialog box

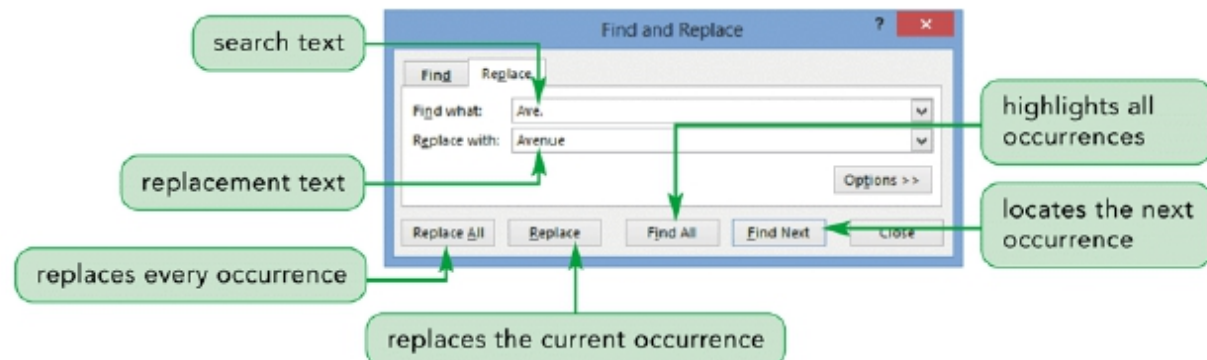


Finding and Replacing Text

- The Find and Replace commands let you make content and design changes to a Worksheet or the entire workbook quickly.
- The Find command searches through the current worksheet or workbook for the content or formatting you want to locate
- The Replace command then substitutes it with the new content or formatting you specify.

Finding and Replacing Text

Figure 2-30 Find and Replace dialog box



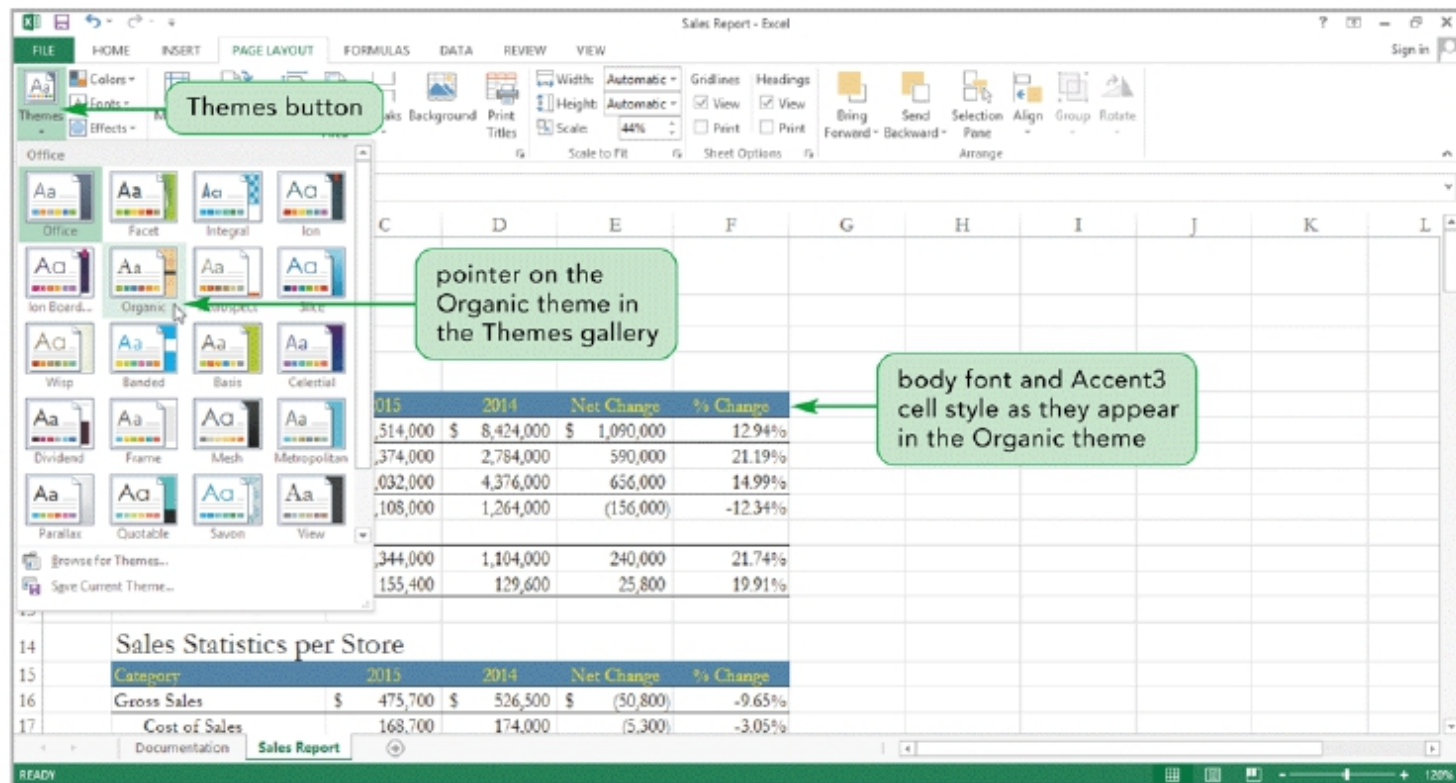
Working with Themes

- Appearance of fonts, colors, and cell styles depends on workbook's current theme
- If theme is changed, formatting of fonts, colors, and cell styles changes throughout entire workbook
- Only elements directly tied to a theme change when you select a different theme

Working with Themes

Figure 2-32

Live Preview of the Organic theme



Highlighting Cells with Conditional Formats

- Goal of highlighting: Provide strong visual clue of important data or results
- Format applied to a cell depends upon value or content of the cell
- Dynamic: If cell's value changes, cell's format also changes as needed
- Excel has four conditional formats: data bars, highlighting, color scales, and icon sets

Highlighting Rules

- Each conditional format has a set of rules that define how formatting should be applied and under what conditions format will be changed

Figure 2-33 Highlight Cells rules

Rule	Highlights Cell Values
Greater Than	Greater than a specified number
Less Than	Less than a specified number
Between	Between two specified numbers
Equal To	Equal to a specified number
Text that Contains	That contain specified text
A Date Occurring	That contain a specified date
Duplicate Values	That contain duplicate or unique values

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Highlighting Cells with Conditional Formats

Figure 2-34

Live Preview of the Less Than conditional format

negative values displayed in a red font

Conditional Formatting button

Less Than

Format cells that are LESS THAN:

0 with Red Text

finds cells whose value is less than 0

formats cells that meet the criteria in a red font

Category	2015	2014	Net Change	% Change
Gross Sales	\$ 9,514,000	\$ 8,424,000	\$ 1,090,000	12.94%
Cost of Sales	3,374,000	2,784,000	590,000	21.19%
Operating Expenses	5,032,000	4,376,000	656,000	14.99%
Net Profit/Loss	1,108,000	1,264,000	(156,000)	-12.34%
Units Sold	1,344,000	1,104,000	240,000	21.74%
Customers Served	155,400	129,600	25,800	19.91%

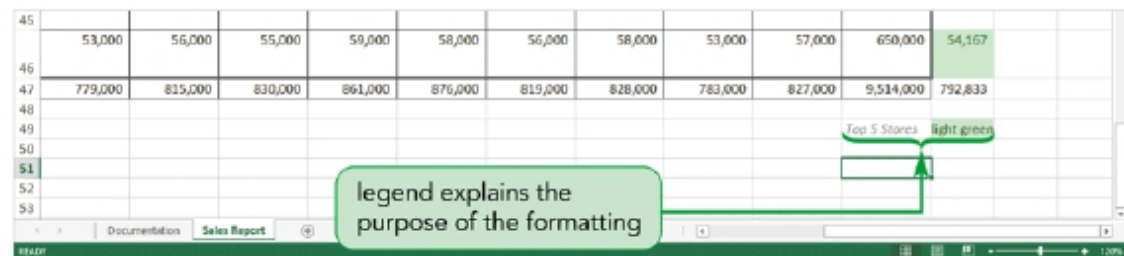
Category	2015	2014	Net Change	% Change
Gross Sales	\$ 475,700	\$ 526,500	\$ (50,800)	-9.65%
Cost of Sales	168,700	174,000	(5,300)	-3.05%
Operating Expenses	251,600	273,500	(21,900)	-8.01%
Net Profit/Loss	55,400	79,000	(23,600)	-29.87%
Units Sold	67,200	69,000	(1,800)	-2.61%

Highlighting Cells with Conditional Formats

- Always include a **legend** – a key that shows each color used in the worksheet and what it means

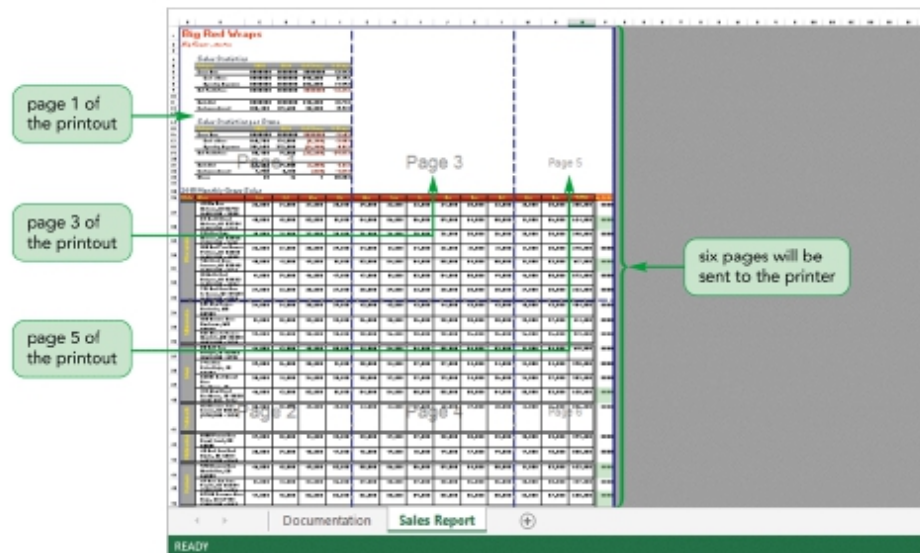
Figure 2-37

Conditional formatting legend



- Print options can be applied to an entire workbook or to individual sheets
- Look at a worksheet in Page Layout view to see how it would print

Figure 2-38 Sales Report worksheet in Page Break Preview



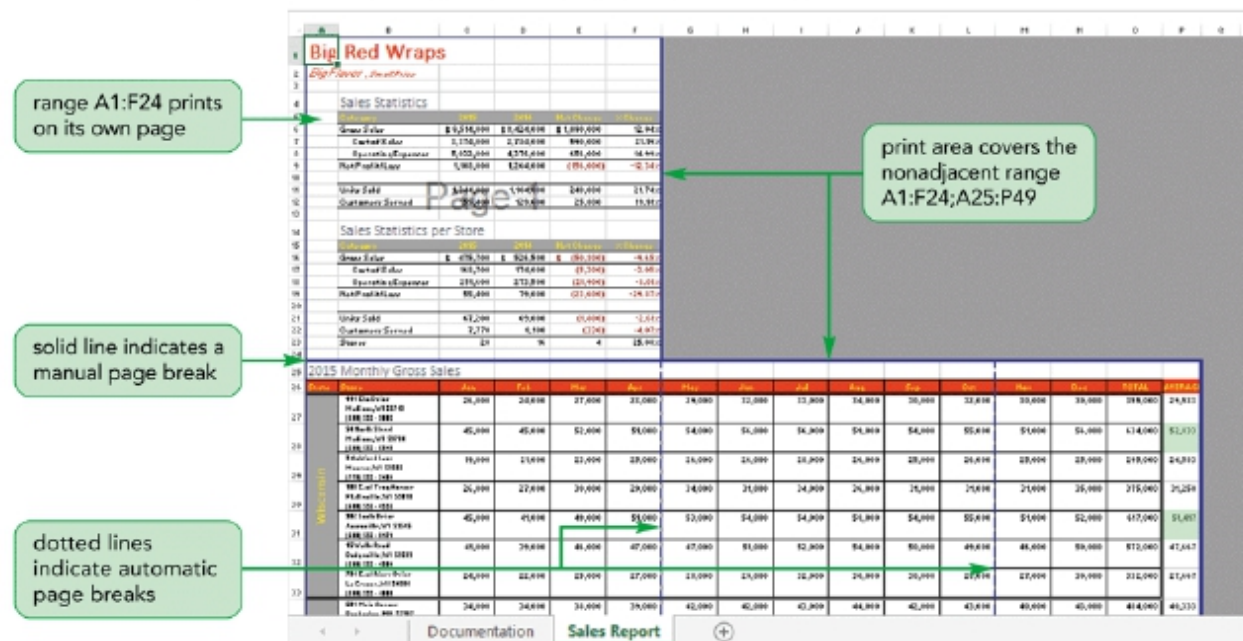
Formatting the Worksheet for Printing

- Defining the **print area** allows you to override default settings and print part of a worksheet
 - Region sent to the printer from the active sheet
 - Can cover adjacent or nonadjacent range in current worksheet
 - Generally easiest to set in Page Break Preview
 - Fit a large worksheet on a single page by reducing size of the page margin
-

- Inserting page breaks
 - Automatic page breaks
 - Manual page breaks

Figure 2-39

Print area set for the Sales Report worksheet



- Add print titles (descriptive information) on each page of a printout in case pages become separated

Figure 2-42

Print titles on page 3 of the Sales Report worksheet

The screenshot shows the Excel interface with the 'Print' dialog box open. The dialog box has a 'Print' button and a 'Printer' dropdown menu. The 'Settings' section includes options for 'Print Active Sheets', 'Pages' (1-3), 'Print One Sided', 'Collated', 'Printed Orientation', 'Letter', 'Normal Margins', and 'Custom Scaling'. The worksheet in the background is titled 'Sales Report - Excel' and contains a table with columns for 'Region', 'Product', and 'Sales'. The table has a header row and several data rows. Annotations with green boxes and arrows point to specific parts of the worksheet:

- A box labeled 'first two rows repeat on every page' points to the first two rows of the table.
- A box labeled 'link opens the Page Setup dialog box' points to the 'Page Setup' link in the bottom right corner of the Print dialog box.
- A box labeled 'first two columns repeat on every page' points to the first two columns of the table.

- Create page headers and footers to include text not usually found within the worksheet (e.g., author, date, filename)
- Headers and footers have three sections: left, center, right
- Elements are dynamic

Figure 2-43 Header/Footer tab in the Page Setup dialog box

